<b>Work Order</b> <i>May-01-13 7:08:2</i>		956		*100	956	<b>k</b> ,						A B./800444444	Page 1
Revision ID:	02151			Accept	*N9(	<u></u> വറ	40	100	)*	Setup	Start Stop	ı u.	S1*
Item Name: P	acker Doubles	r, Hinge									этор	^N:	S2*
Start Date: 4 Required Date: 4 Reference:	/30/13 /30/13	Start Qty: 16.00 Req'd Qty: 16.00	*16* *16*		Cust I Custo	tem ID: mer:			·				
Approvals:	Process Plan	n: 141 T	Date: 13-05-02	Tooling:		Date:				Run	Start	*N	R1*
			Date:	SPC (Y/N):		Date:					Stop	*N	R2*
Sequence ID/ Work Center ID		Operation Description		Set Up/ Run Hours	Tool	ID 7	Γool #	Plan Code	Accept Qty	t Rej Qty		Reject Number	Insp. Stamp
Draw Nbr	Revi	sion Nbr											
D2151	Rev	В										·	
*100 *100*		FLOW WATER JET		0.00					16		<b>&gt;</b>		JM13-09-10
Waterjet FLOW CNC Waterjet 2024.040		<b>Memo</b> 1-Cut as per Deburr if neo	Dwg D2151 Dwg Rev:_cessary	B Prog Rev: B	2-								
110		QC2- Inspect parts off ma	achine FAI/FAIB	0.00									
*110* QC Quality Control		Memo		0.00					<u>) (</u>	0			Jm13-09
Quanty Control								·. ·					
120		QC8- Inspect parts - seco	and check	0.00 DAS 27					l( .				
*120* QC QC Ouality Control		Memo		0.00 9-89	16				ما				

Quality Control

DQA: \_\_\_\_Date: \_\_\_\_\_

NCR:	Yes	/	No

## **WORK ORDER NON-CONFORMANCE / UPDATE**

IVCN.					WORK ORDER WORK					QA Closed:	Date	2:
Work Orde	r·				DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
			·		Rework Scrap	]		Skid-tube Machining	Crosstube Small Fab	Pro	Water Jet d. Eng. Coor.	Engineering Quality
Part N	0				Use-as-is	┨ .		noforming	Finishing		re/Packaging	Other
NCR N	0.			<del></del>	Work Order Update	]		Large Fab	Composite		Supplier	
Root				Descri	ption of work order update	lni	itial	Ac	ction	Sign &		
Cause	Date	Step	Qty	•	or Non-conformance	Chie	f Eng	Desc	cription	Date	Verification	QC Inspector
Doc/Data												
Equip/Tooling												
Operator												
Material						ļ						
Setup												
Other												
Process						1						
Supplier		· .										,
Training												
Unapproved		İ								<u> </u>	l	
					F	AULT	CATE	GORY				
Landin	ng Gear				General					7	_	
	Bending				Bend	$\vdash$	rain			Ovalized		Pressure/Forced
	Centre No	ot Concer	ntric to (	O/S	BOM/Route		lardwa			Over/Under	tolerance	Temperature/Cure
	Cracks				Broken/Damaged	$\overline{}$		on Incomplete		Part Incorre	<u> </u>	Weld
	Crushed/	Crimped.			Burrs	∐lr	nstruct	ions Incomplete,	/Unclear	Part Lost/M	issing	Wrong Stock Pulled
	Cuffs				Contamination	Ш^	∕lainte	nance		Part Moved		
	Heat Trea	it		L	Countersink	∐^	∕lislabe	led		Positioned \		$\neg$
	Inspection	n Strip in	Tube		Cut Too Short	∐^	∕lisreac	<del>i</del>		Power Loss/	'Surge	Other
	Ripples in	Bend			Drill Holes		Offset					
{	Torque W	/aves in E	xtrusion	۱ _	Drawing		ot of (	Calibration				
	Turning S	equence			Finish'		ot of S	Sequence				· · · · · · · · · · · · · · · · · · ·
	Wave/Tw	ist in Tub	oe .		Folio ''		Outside	Dimensions				

<b>Work Orde</b> <i>May-01-13 7:08</i>					*100	<b>9</b> .	) ) )						Page 2
	D2151				Accept	*	1900	040	100	)* s	etup Star	*N	S1*
Revision ID: Item Name:	Packer Doubl	ler Hinge									Stop	*NI	C2*
			*	4 C*				D				Į VI	
Start Date: Required Date:	4/30/13	Start Qty: 16.00 Req'd Qty: 16.00		16*			Cust Item I Customer:	D:					
Reference:	4/30/13	<b>Red a Gry.</b> 10.00		16*		•	Customer.						
Approvals:	Process Pl	an:	Date:		Tooling:		Da	ate:		R	lun Star	1/1	R1*
••			Date:		SPC (Y/N):		Da	ate:			Stop	*N	R2*
Sequence ID/ Work Center II	)	Operation Description			Set Up/ Run Hours		Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
*130 *130* Small Fab		Small Fab			40 / 00.0	,s							### ### ### #### #####################
Small Fab		Deburr	`		MI	27 9-89							
140		Chemical Conversion Co	oat per QSI005 4.	.1	0.00					16	NG.	. 12	Q.10
*140* HandFinish Hand Finishing		Memo			0.00					16	rus,	1/10°	1-0
150		White Gloss(Ref:4.3.5.1	) per QSI005 4.3-	-Alum	0.00	. *							
*150* Powdercoat Powder Coating		Memo START TIM	4E: 1	1,00	0.00  OVEN TEMPERATURE	z.			1	bXy	my	113,	109/10
		322	FINISH TIME:		7-30	J.							
112618	5				-								

			DQA:	Date:
NCR:	Yes / No	WORK ORDER NON-CONFORMANCE / UPDATE		

										QA Closed:	Date	) :
Work Orde	or.					DISPOSITION			AGAINST DE	PARTMENT	/PROCESS	
Part N			· · · · · ·			Rework Scrap Use-as-is	Tho	Skid-tube Machining rmoforming	Crosstube Small Fab Finishing	-	Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other
NCR N	No					Work Order Update	I	Large Fab	Composite	l Recystor	Supplier	
Root					Descri	ption of work order update	Initial	А	ction	Sign &		
Cause	[	Date	Step	Qty		or Non-conformance	Chief Er	g Des	cription	Date	Verification	QC Inspector
Doc/Data												
Equip/Tooling			:									
Operator												
Material												
Setup											į	
Other						•	<u> </u>					
Process						•						
Supplier												
Training												'
Unapproved												
						F	AULT CA	EGORY				
Landi	ng Gea	r				General				_	_	
	Bei	nding				Bend	Grain	1	,	Ovalized		Pressure/Forced
	Ce	ntre No	t Concer	ntric to (	D/S	BOM/Route	Hard	ware		Over/Under	tolerance	Temperature/Cure
	Cra	icks				Broken/Damaged	Inspe	ction Incomplete		Part Incorre	ct	Weld
	Cru	ished/0	Crimped.			Burrs	. Instru	ictions Incomplete	/Unclear	Part Lost/M	issing	Wrong Stock Pulled
	Cut	ffs				Contamination	Mair	tenance		Part Moved		
,	He	at Trea	t			Countersink	Misla	beled		Positioned \	Vrong _	<u> </u>
	Ins	pection	Strip in	Tube		Cut Too Short	Misre	ad		Power Loss,	'Surge	Other
	Rip	ples in	Bend			Drill Holes	Offse	t				
	Toi	rque W	aves in E	xtrusion	ı [	Drawing	Out	f Calibration				
	Tui	rning Se	equence			Finish	Out o	f Sequence				
	□ wa	ve/Twi	ist in Tuh	ne .		Teolio	Outsi	de Dimensions				

							<u> </u>			***************************************		
Work Ord  May-01-13 7:0		00956			*100	)956*						Page 3
Item ID: Revision ID: Item Name:	D2151 Packer Dou	bler, Hinge	o grade and a grad		Accept	*N900	<b>040</b>	100	)* :	Setup Sta	1 4	S1* S2*
Start Date: Required Date: Reference:	4/30/13 : 4/30/13	<b>Start Qty:</b> 16.00 <b>Req'd Qty:</b> 16.00		*16* *16*		Cust Item I Customer:	D:			Sto.		
Approvals:	Process P	Plan:	Date:		Tooling:		ate:		J	Run Sta	1/1	R1*
	QC:		Date:_		SPC (Y/N):	Da	ate:			Sto	<sup>'p</sup> *N	R2*
Sequence ID/ Work Center I	<b>D</b>	Operation Description			Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
*160 *160* QC Quality Control		QC3- Inspect Part Finish  Memo			0.00				10	2 4 6	91	1/00/
170 *170* Packaging Packaging		Identify as per dwg & Sto  Memo	ck Locatic	on: <i>5T005</i>	0.00 0.00				_1(0)	AS ( 128 ( 28 28	13-	-09 <i>-3</i> 0

0.00

0.00

180

\*180\*

Quality Control

QC21- Final Inspection - Work Order Release

Memo

Ht / M18-09-23

					•						DQA:	Dat	e:	•
NCR: Y	es / No				WORK ORDER NON-C	O	NFORM	/ANCE / UP	DATE		•		_	
										on make	QA Closed:	Dat	te:	
Mork Orda					DISPOSITION				AGAINST I	DE	PARTMENT	PROCESS		
Work Orde	:1,			<del></del>	Rework	, [		Skid-tube	Crosstube			Water Jet		Engineering
Part N	lo.				Scrap			Machining	Small Fab		Pro	d. Eng. Coor.	$\neg$	Quality
					Use-as-is	]	Therm	noforming	Finishing		Rec/Stor	e/Packaging		Other
NCR N	lo				Work Order Update	]		Large Fab	Composite			Supplier		
Root		T		Descri	ption of work order update	l	nitial	Ac	tion		Sign &	<u> </u>		
Cause	Date	Step	Qty	(	or Non-conformance	Ch	ief Eng	Desc	ription		Date	Verification	n	QC Inspector
Doc/Data														
Equip/Tooling														
Operator														
Material														
Setup														
Other											·			
Process														
Supplier		1												
Training														
Unapproved		<u> </u>	<u> </u>											
					F	AUL	T CATE	GORY						
Landir	ng Gear				General		-		,		٦			1
	Bending			<u></u>	Bend		Grain				Ovalized			Pressure/Forced
	Centre N	ot Conce	ntric to	D/S	BOM/Route	<u></u>	Hardwa	re			Over/Under	tolerance		Temperature/Cure
	Cracks				Broken/Damaged		Inspecti	on Incomplete			Part Incorre	ct		Weld
	Crushed/	Crimped.			Burrs		Instruct	ions Incomplete/	Unclear		Part Lost/Mi	ssing		Wrong Stock Pulled
	Cuffs				Contamination		Mainte	nance	ļ		Part Moved			
	Heat Trea	at			Countersink		Mislabe	led	ļ		Positioned V	-		7
	Inspectio	n Strip in	Tube		Cut Too Short		Misreac	İ			Power Loss/	Surge		Other
	Ripples ir	Bend			Drill Holes		Offset							

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish Folio

Work Order ID:

100956

Parent Item:

D2151

Parent Item Name:

Packer Doubler, Hinge

**Start Date:** 4/30/13

Required Date: 4/30/13

Page 1

**Start Qty: 16.00** 

Required Qty: 16.00

Comments:

IPP C00.10.23Re-format (mpp 2101)EC

IPP Rev:D 06-04-28 Manufactured on Water Jet JLM

Component Item ID/ Item Name	IPP Rev:E 06-11  Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
<b>M2024T3S.040</b> 2024-T3 .040 sheet		Purchased	No			110	sf	458.6877	0.035	.0.5894737 O- G	CF #C hand (s.d. sec. sec. sec.	Jm	13-09-11
				<b>Location</b>		Loc Qty	<u>Lo</u>	c Code					
	-			MAT022		458.6876922							
				12060	)5	65.8254832							
				12119	7	57.187894							
				12213	36	31.78							
				12321	.7	24.394315			***************************************				
				12498	37	279.5			130	<u> 1987</u>			

DQA: Date: **WORK ORDER NON-CONFORMANCE / UPDATE** NCR: Yes / No QA Closed: Date: DISPOSITION AGAINST DEPARTMENT/PROCESS Work Order: Engineering Crosstube Water Jet Rework Skid-tube Quality Machining Part No. Small Fab Prod. Eng. Coor. Scrap Thermoforming Finishing Rec/Store/Packaging Other Use-as-is Large Fab Composite Supplier NCR No. Work Order Update Description of work order update Initial Action Sign & Root or Non-conformance Chief Eng Description Date Verification QC Inspector Step Cause Date Qty Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved **FAULT CATEGORY Landing Gear** General Grain Ovalized Pressure/Forced Bend Bending BOM/Route Temperature/Cure Over/Under tolerance Centre Not Concentric to O/S Hardware Weld Broken/Damaged Cracks Inspection Incomplete Part Incorrect

Instructions Incomplete/Unclear

Maintenance

Out of Calibration

Out of Sequence

**Outside Dimensions** 

Mislabeled

Misread

Offset

Wrong Stock Pulled

Other

Part Lost/Missing

**Positioned Wrong** 

Power Loss/Surge

Part Moved

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Crushed/Crimped.

Inspection Strip in Tube

Torque Waves in Extrusion

Cuffs

**Heat Treat** 

Burrs

Contamination

Countersink

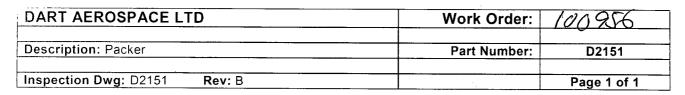
**Cut Too Short** 

**Drill Holes** 

Drawing

Finish

Folio



## FIRST ARTICLE INSPECTION CHECKLIST

Х	First Article	Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.098	+0.005/-0.000	0,098"	_		V	
Ø0.171	+0.005/-0.000	0.171"	_		V	
0.231	+/-0.010	0.236	_		V	
1.217	+/-0.010	1.221"	_		V	
2.194	+/-0.010	2.196	_		W	
2.300	+/-0.010	2302"	_		V.	
1.560	+/-0.010	1.567"	_		V.	
0.250	+/-0.010	0.921,	_		V	
1.328	+/-0.010	1.39.8	_		V -	
0.342	+/-0.010	0.345"	_		<b>V</b> ::	
0.740	+/-0.010	6.741"	-		<i>V</i>	
2.050	+/-0.010	8.047"	_		V	
0.040	+/-0.010	0.040"	-		V	
					. ·	
			DAS			

Measured by: Jm Audited by: 9-89 Prototype Approval: N/A

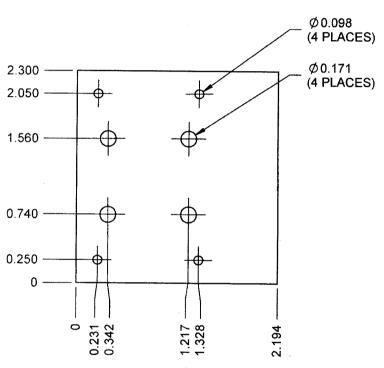
Date: 13-09-16 Date: 59 6 Date: N/A

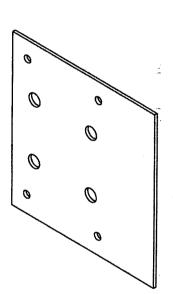
Rev	Date	Change	Revised by	Approved
Α	04.08.12	New Issue	KJ/JLM ,	
В	06.11.24	Dwg Revision revised	KJ/JLM	8



	DESIGN BW		DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
	CHECK	(ED	APPROVED	DRAWING NO.	REV. B
		E	THE	D2151	SHEET 1 OF 1
į	DATE 06.10.13			PACKER	SCALE
			10.13		1:1
	REV	DATE		DESCRIPTION	
	Α	95.05.01		NEW ISSUE	
	В		06 10 13	LIPDATE DRAWING	

RELEASED de 11-20





SHOPCU

**D2151 PACKER** 

UNCONTRACT OF TO SHIP LINEANIA 81.71/25

## **NOTES**

- 1) MATERIAL: ALUMINUM 2024-T3 SHEET 0.040 THICK PER QQ-A-250/4 OR AMS 4037 (REF DART SPEC M2024T3S.040)
- 2) FINISH: CHÈMICAL CONVERSION COAT PER DART QSI 005 4.1
- POWDER COAT WHITE GLOSS (4.3.5.1) PER DART QSI 005 4.3 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

- 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
  5) BREAK ALL SHARP CORNERS TO 0.010 MAX
  6) IDENTIFY WITH DART P/N "D2151" USING FINE POINT PERMANENT INK MARKER

## COPYRIGHT © 1995 BY DART AEROSPACE LTD